Indian Health Service Best Practice for Diabetic Foot Care
A Strategy for Primary Care Clinicians

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Learner Objectives

1. List risk 4 factors for diabetic foot complications
2. Be able to conduct a complete diabetic foot exam
3. List 3 interventions associated with decreased risk for foot complications
4. State 4 educational objectives for patients at high risk for foot complications
5. Describe 4 components of the chronic care model related to improving diabetic foot care

Protecting the Diabetic Foot
A Strategy for Primary Care Clinicians

- *Screening for High Risk Patients*
- Practical Interventions
- Implementation into Practice

Why is Foot Care Important for People with Diabetes?

- ~40% will develop peripheral neuropathy
- ~20% have an acute foot problem on foot exam
- ~15% will develop an ulceration (cost ~ $13-30K each)
- 5-10% progress to amputation (cost ~ 50K/yr each)
- 43% with ulcer and 47% with amputation die in 5 years
- Most amputations can be prevented with resources currently available in primary care
- Most patients with diabetes get their care from primary care providers

CDC, 2008; Harris, 1993; Kumar, 1994; Borrsen, 1990; Reiber, 1999; Stockl, 2004; Rith-Najarian, 2001;Moulik, 2003

Foot Related Rick Factors for Ulceration

Risk Factor	Ulcer	LEA
Neuropathy	+	+
Deformity	+	+
Limited Joint Mobility	+	+
Prior Ulcer/LEA	+	+
PVD	+	+
Onychomycosis	+	

Pham, 2000; Lavery, 1998; Rosenbloom, 1996; Walters, 1992; Kumar, 1994; Fernando, 1991; Rith-Najarian, 1992; Mayfield 1996; Alder, 1999, Boyko, 2006

Non-Foot Related Risk Factors for Ulceration and Amputation

Risk Factor	Ulcer	LEA
Male Sex	+	
Duration DM	+	
Age	+	
hyperglycemia	+	+
hypertension	+	+
dyslipidemia	+	+
smoking	±	±
Vision < 20/40	+	
Other complications	+	+

Moss, 1996; Alder, 1999; Palumbo, 1995; Moss, 1992; Moss, 1999; Litzelman, 1997; Lee, 1993; Boyko, 1999; Nelson, 1988; Selby, 1995; Lehto, 1996; Eggers, 1999; Boyko 2006.

Simple Criteria to Identify High Rick Feet in People with Diabetes

- Insensate to 10-gram monofilament
  or Insensate to 128-Hz tuning fork
- Foot deformity
- Prior ulcer or amputation
- Absent pulse or abnormal ABI pressure

Diabetes Care, 15:1386-89, 1992; N Eng J Med, 1995;322:269-70.
Diabetes Care, 31:1679-85, 2008; Diabetes Res Clin Pract, 70:8-12, 2005
Feet Can Last a Lifetime, NIH/NIDDK, 2002

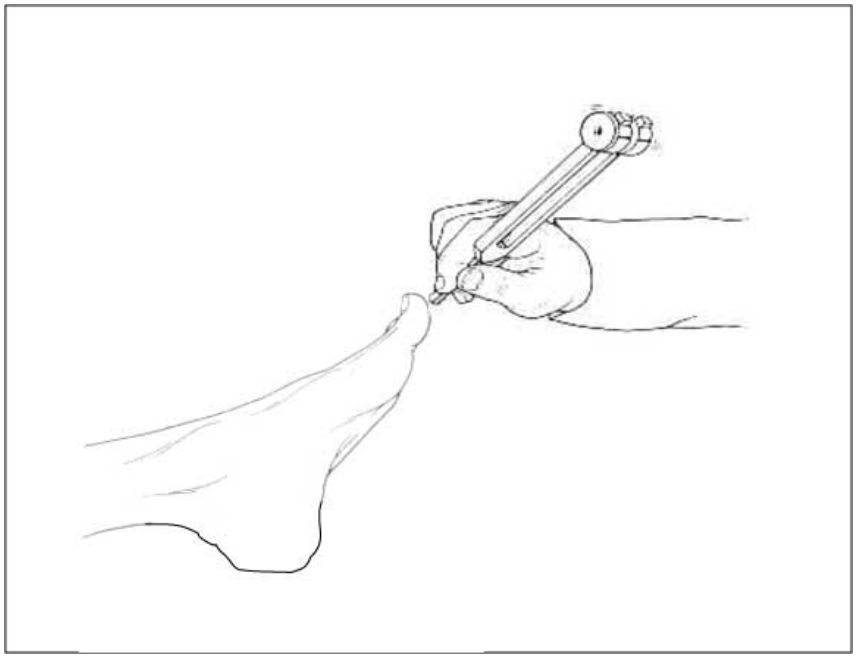
- Press perpendicular to point of bending, hold
  1 second and release
  (Demonstrate on hand)
- Patient Closes Eyes, and acknowledges sensation of pressure with a “yes”
- Test Both Feet, 4 sites each: Great toe and 1st 3rd 5th metatarsal heads (not heel or dorsum)
- Insensate in one or more area confers risk

Perkins, Diabetes Care 2001;24:250-256
Diabetes Care, 1992;15:1386-89

Vibration Sensation Testing
128 Hz Tuning Fork

- Tested over the tip of the great toe bilaterally

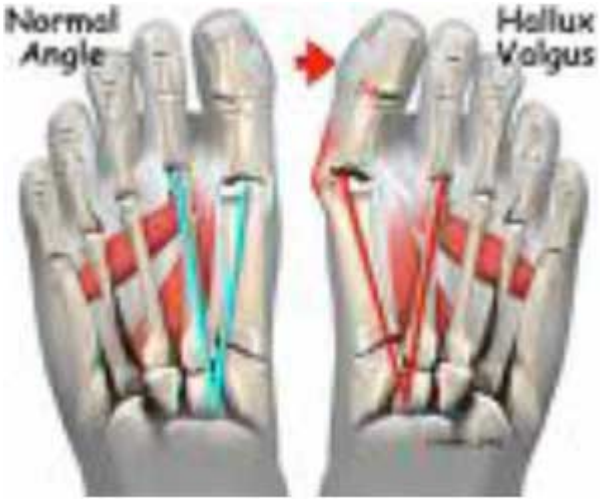
- An abnormal response can be defined as when the patient loses vibratory sensation and the examiner still perceives it while holding the fork on the tip of the either toe

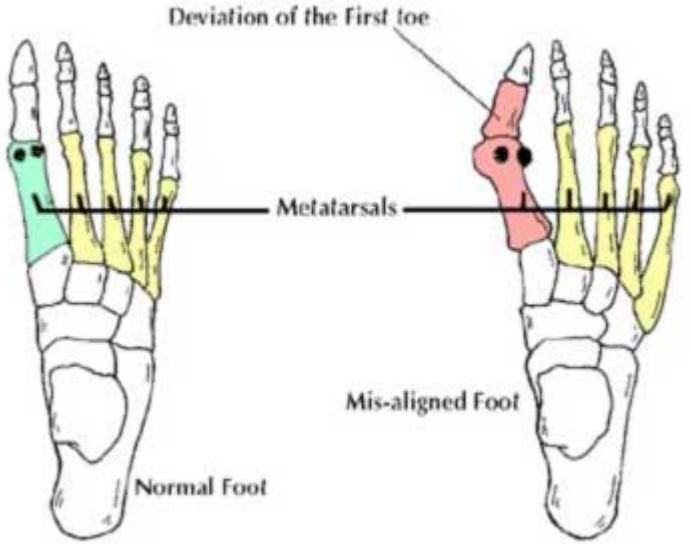


Singh JAMA 293:217–228, 2005
Abbott, Diabet Med 19:377–384, 2002

Development of Foot Deformities

Bunions – hallux valgus





Foot Deformities Associated with Risk for Amputation

Bunions – hallux valgus

Foot Deformities Associated with Risk for Amputation

Foot Deformities Associated with Risk for Amputation
Charcot Foot

Selected Clinical Assessment of Peripheral Arterial Vascular Status and Abnormal Thresholds

Vascular Test	**Abnormal Threshold**
Pedal Pulses:	Absent
Ankle Brachial Index (ABI):	< 0.8
Toe BI:	< 0.6

Pham Diabetes Care 2000;23:606-11
Wang, Circulation 2005;112:3501-3508
Suominen, European J Vasc Surg 2008;35:709

Arterial Anatomy of the Foot

Dorsalis Pedis artery

Posterior tibial artery

Ankle Brachial Index

1. Measure Doppler brachial pressures in each arm
2. Measure Doppler Pressure in each ankle
3. **Calculate ABI**: ABI = Ankle BP/Brachial BP *Divide the ankle press by the greater of the two brachial pressures*

From Hurley et al, The Diabetic Foot, 1993

Correlation of POAD Symptoms by ABI Category

Severity Category	**ABI Value**
Normal	1.0-1.4
Borderline	0.90-0.99 or > 1.4
Mild	0.70-0.89
Moderate	0.40-0.69
Severe	< 0.40

Wang, *Circulation* 2005; 112:3501-3508

Video of Foot Exam

Protecting the Diabetic Foot
A Strategy for Primary Care Clinicians

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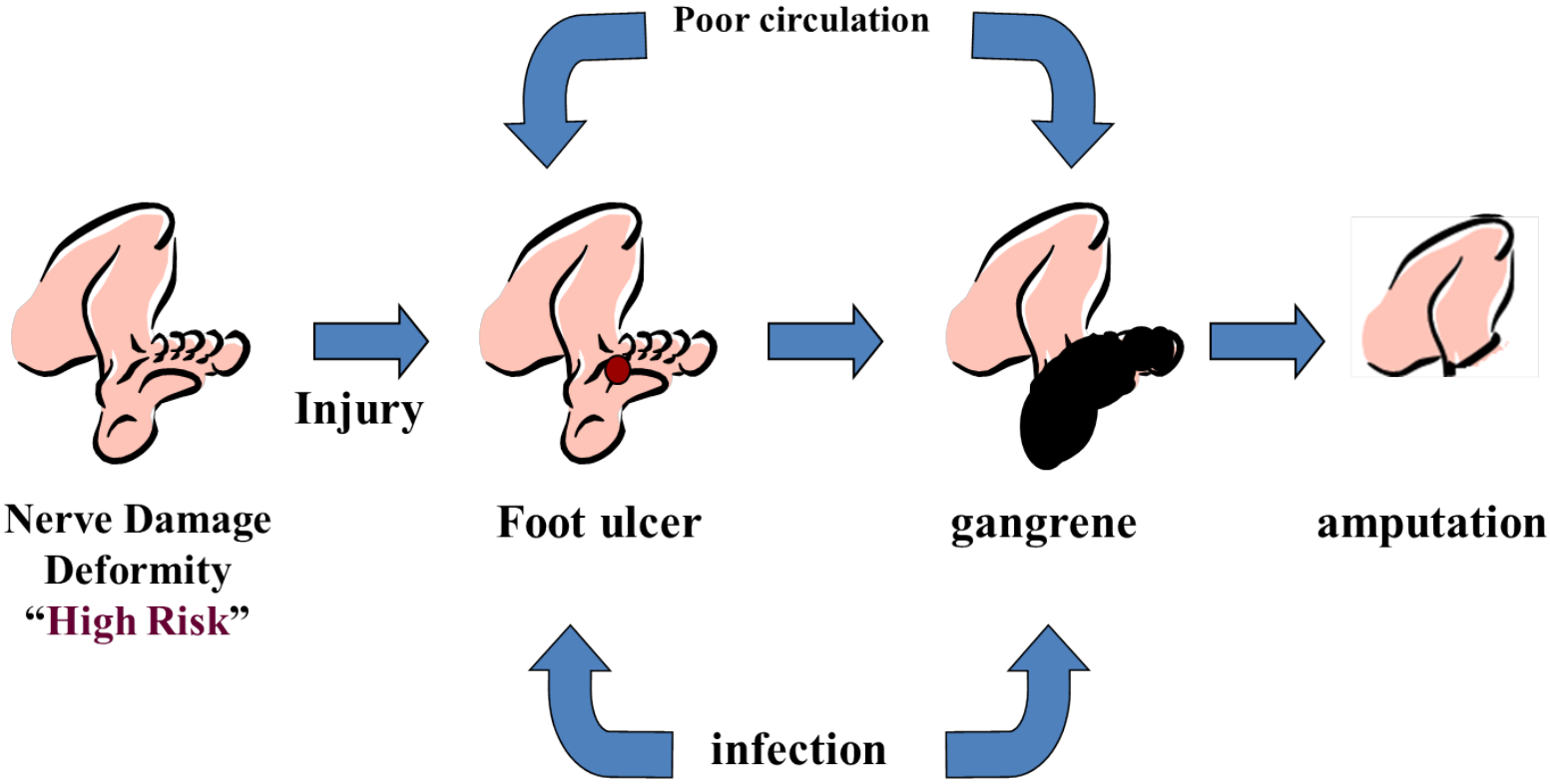
- *Practical Interventions*
- Implementation into Practice

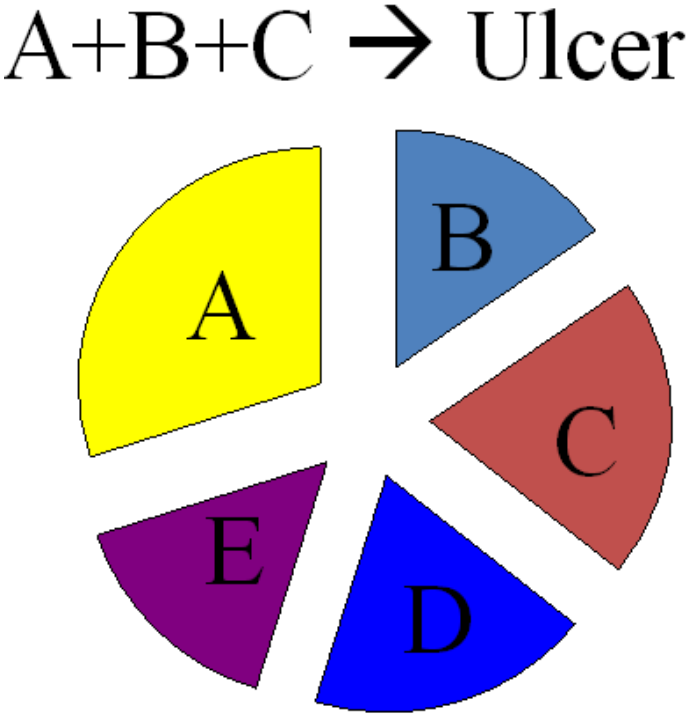
Pathways to Diabetic Limb Amputation: a Basis for Prevention



Reiber, Diabetes Care 1999;22:157-62

Pecoraro Diabetes Care 1990;13:513-21

Component Causes Present in Casual Pathways Leading to Foot Ulcers in Persons with Diabetes



Component Cause	Percentage (%)
Neuropathy	78
Minor Trauma	77
Deformity	63
Edema	37
Callus	30
Infection	1
Ischemia	35

Reiber, Diabetes Care, 1999;22:157-62

Strategies to Prevent or Delay Development of Common Component Causes of Foot Ulceration and Amputation

Component Cause	Intervention Strategy
Neuropathy	Good glycemic control, Education on Risk for foot injury
Minor Trauma	Clear Walking Space, Nightlights, Protective footwear
Deformity	Accommodative footwear, Education to support footwear
Edema	Footwear accommodative to of edema Reduce edema: pharmacologically, compression stockings
Callus	Regular removal of callus Footwear that minimizes callus development
Infection	Education on reporting problems early
Ischemia	Reduce risk for atherosclerosis (hypertension, and lipid control, smoking cessation) Revascularize for critical ischemia

Reiber, Diabetes Care, 1999;22:157-62

Association of Patient Education and Amputation Prevention

Program	**Reduction in LEA Rate**	
Veterans, Tucson USA	70%	Malone, 1989
Kisa, Sweden	80%	Larrson, 1995
Kings College, London	44%	Edmonds, 1999
Geneva, SZ	85%	Assal, 1993
Madrid, Spain	50%	Calle-Pascual, 2001

Evidence-Based Education and Treatment Objectives for All Patients with Diabetes

Low-Risk Feet

- Control glucose
- Control Blood Pressure
- Control Lipids
- Smoking Cessation

Dyck, 1999; Moss 1992; Moss 1999; Boyko 1999; Goldberg, 1998; Pyorala, 1997; UKPDS, 1998 Haire-Joshu, 1999

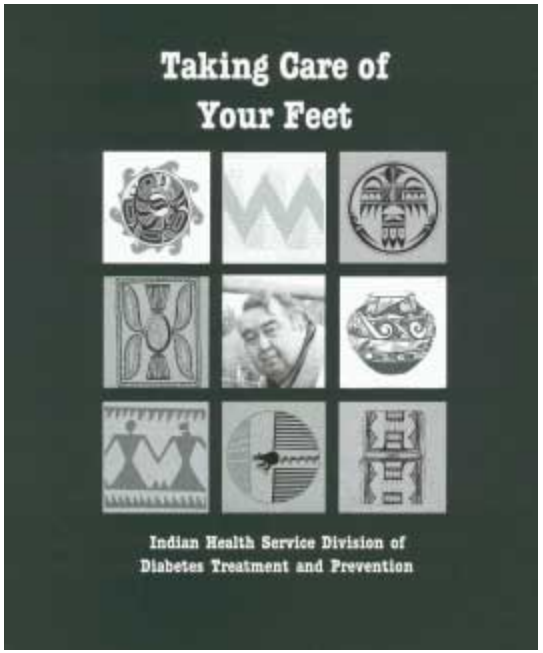
Evidenced-Based Footcare Educational Objectives for Patients with Diabetes

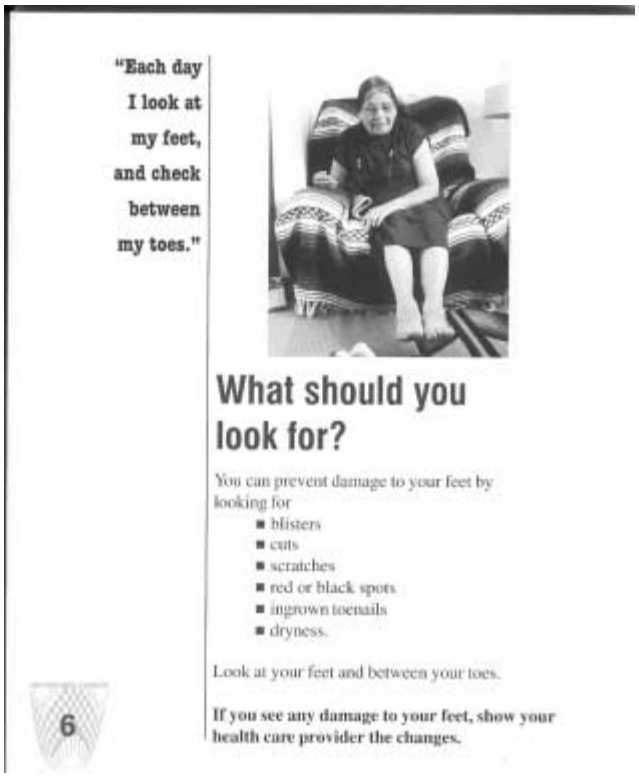
High Risk Feet

- Daily washing and inspection
- Clear walking area of dangerous objects
- Appropriate footwear (selection, fitting, & use)
- Use slippers indoors – No barefoot
- Proper Nail and Callus Care (no bathroom surgery)
- Avoid extreme temperatures
- Avoid soaking
- Report problems promptly (Infections, ulcers, cuts that do not heat)

Calle-Pascual, 2001; Reiber, 1999; Ward, 1999;Barth, 1991; Malone, 1989; Edmonds, 1986

IHS Patient Education Materials on Footcare Pre-tested for Learner Comprehension





Hosey, Diabetes Educ 1990;16:407-414

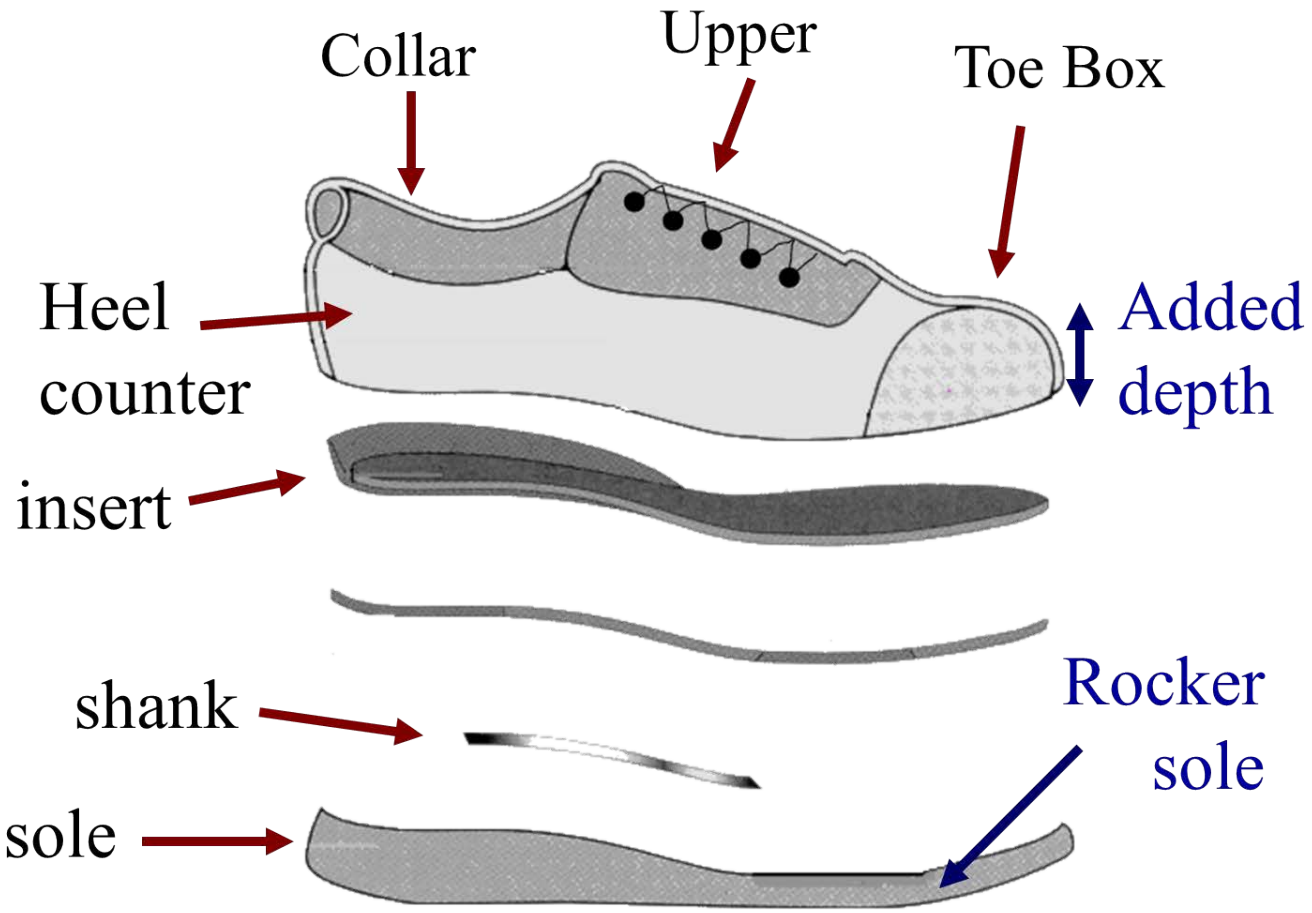
http://www.ihs.gov/MedicalPrograms/Diabetes/RESOURCES/Catalog/rde/index.cfm?module=catalog

Footwear and Prevention of Foot Lesions

- Reduced Peak Planter Pressures > 50%
- Reduced callus formation > 30%
- Ulcer recurrence rates reduced > 50%
- LEA rate reduced > 70%

Viswanathan Diabetes Care 2004;27:474-477
Chanteleau, Diabet Med 1994;11:114-6
Ashry, J Foot Ankle Surg 1997;36:268-71
Edmonds, Q J Med 1986;60:763-71

Footwear Anatomy 101



Footwear Selection

- Normal feet: standard shoes
- Insensate feet: quality walking shoe or added depth shoe
  - Adjustable upper
  - Firm heel counter
  - Padded insert and collar
  - Broad sole with nominal lift

- Insensate feet + Minor deformity: added depth shoe + custom insert
- Major Deformities: custom molded shoes

Tovey, Diabet Med 1984;1:69-71; Dahmen, Diabetes Care. 2001;24:705-9

Custom-Molded Inserts and Extra-Depth Shoes

Fitting Shoes

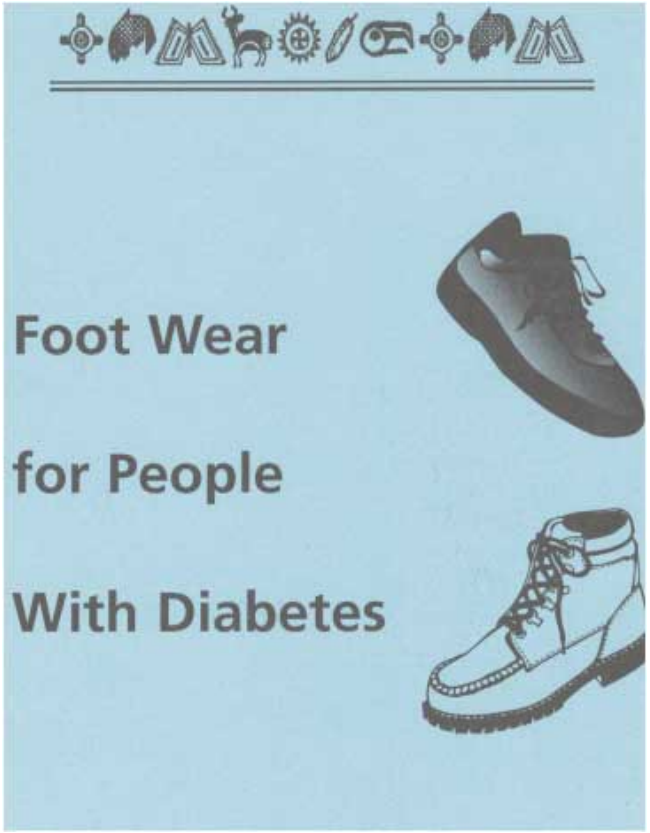
- Select shoes that match the shape of the foot
- Measure both feet while standing
- Fit while wearing standard socks
- Fit largest foot
- 1 cm length between longest toe and shoe tip

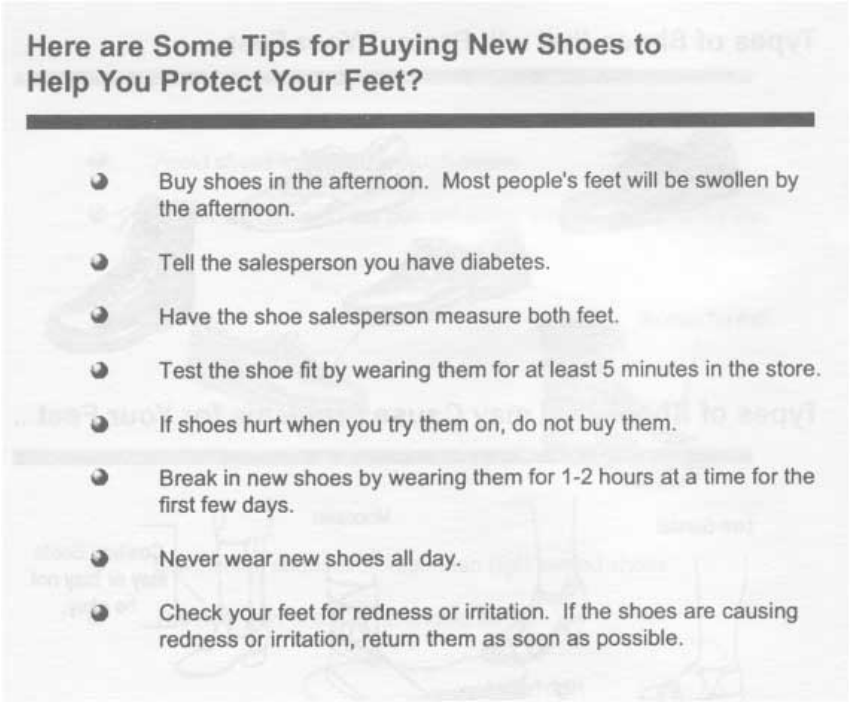
Tovey, Diabet Med 1984;1:69-71

Footwear Precautions

- Break-in:
  - Start half-hour on first day
  - Then increase by half-hour increments per day
  - Inspect for redness after wearing
- Change shoes 1 to 2 times daily
- Check for foreign bodies
- Replace when worn out

http://www.ihs.gov/MedicalPrograms/Diabetes/RESOURCES/Catalog/rde/index.cfm?module=catalog





Medicare Therapeutic Footwear Benefit

3 steps:

1. Physician Certification for Therapeutic Footwear (MD, DO)
2. Footwear Prescription (usually a Podiatrist)
3. Fitting and dispensing (usually a Pedorthist)

Statement of Certifying Physician for Therapeutic Footwear

Certifying Physician Information

Prescription Form for Therapeutic Footwear

Prescribing Physician Information

Sugarman,. Diabetes Care 1998:777-81.

Wooldridge. Am J Public Health 1996::935-8

Routine Podiatry Care for People with Diabetes

Associated with:

Increased self-foot care knowledge and 30% reduction in callus *Ronnemaa Diabetes Care, 1997;20:1833-1837*

54% reduction in ulceration rates in case control study of 91 diabetic patients with a history of foot ulcers
Plank, Diabetes Care 2003;26:1691-1695

75% reduction in LEA rates in Medicare patients with diabetes and high-risk feet who received palliate podiatry foot care services *Sowell, J Am Podiatr Med Assoc 1999;89:312-7*

Principles of Podiatry Care for People with Diabetes

- Lubricate skin
- Trim nails
- Reduce callus

Suico, 1998;; Murray, 1996 Murray, 1996

Lubricate Dry Skin

- Autonomic neuropathy contributes to dry skin
- Instructed Patients to apply a moisturizing lotion daily
- Oil or water based lotions are a mater of patient preference
- May need care giver to assist

Lubricate Dry Skin

Nail Trimming: Normal Nails

- Use nail nippers, strait or curved.
- Good lighting, comfortable position, safety glasses
- Stabilize the toe with one hand, cut with the other
- Start at one edge and follow the curve.
- File any sharp edges with emery board

Nail Trimming: Normal Nails

Nail Trimming: Curved Nails

- Use nail nippers, strait
- Good lighting, comfortable position, safety glasses
- Start at one edge and follow the curve
- Avoid cutting into corners
- File any sharp edges with emery board

Nail Trimming: Thick Mycotic

- Tend to be very brittle
- Can use nail nippers or dremmel to trim off sharp edges
- Best to refer to a podiatrist or certified foot care nurse

Callus Debridement

- Good lighting, gloves, alcohol swab, and #15 disposable scalpel
- Wipe with alcohol swab, callus tissue will turn white
- Shave or pear down callus gradually
- Palpate intermittently to feel when you are close to pliable “normal” tissue, then stop.

Callus Debridement

Principles of Wound Care

- Assessing foot Wounds
- Classifying foot wounds
- Management of uncomplicated wounds
- Vascular Assessment
- When to refer

Assessing Foot Wounds

Begin by assessing the following criteria:

- Wound dimensions.
- Quality of the wound bed and edges.
- Surrounding erythema and cellulites.
- Penetration to deep structures (fascia, tendon, bone, FB)
- Lower extremity blood flow.
- Signs of systemic infection (Temperature, WBC)

Standard Classification Foot Wounds

University of Texas Wound Classification

Grade		Stage	
0	Pre-ulcer	A	no infection or ischemia
1	Superficial	B	infection
2	Soft Tissue	C	ischemia
3	Bone or Joint	D	infection & ischemia

Armstrong, Diabetes Care 1998;21:855-859

Management Principles Uncomplicated Wounds

- Clean and moist environment
  - Wound Debridement
  - Regular Dressing Changes
- Off loading
- Oral antibiotics directed by culture
- Monitoring of size
- Outpatient management appropriate
- May need to hospitalize for off loading
- Limited use of adjective healing agents
- Control glucose

Dressing Principle

- Wet to Dry Saline gauze dressing daily is the main stay.
- Adsorbent compounds are useful for soupy wounds
- Hydrocolloid gels and occlusive dressings have a role in dry wounds.
- Enzymatic debridement may be useful to soften eschar

Nutrition and Wound Healing

- Positive Nitrogen Balance for Anabolic State
- Vitamin C 500mg daily
- ZnSO4 220mg Daily x 10d then MVI with trace minerals QD

Heyman, J Wound Care. 2008;17:476-8, 480
Desneves, Clinical Nutrition, 2005 Dec;24:979-87

Simple Wound: Debridement

Management Principles Complicated Wounds

- Inpatient management appropriate initially
- Initial Surgical Wound Debridement
- Vascular Assessment and appropriate intervention
- Clean and moist environment:
  - Regular Dressing Changes
  - Consider Negative Pressure Wound Therapy
- Parental Antibiotics directed by culture
- Off loading
- Monitoring of size
- Consider use of adjunctive healing agents

Factors Associated with Diabetic Foot Wound Healing

Risk Factor	Adjusted Odds Ratio (95% CI)
Sex	1.14 (1.08, 1.20)
Age	1.01 (1.00, 1.01)
Grade*	1.93 (1.82, 2.05)
Wound duration *	1.30 (1.27, 1.32)
Wound size*	1.32 (1.30, 1.34)

*P<0.0001

Margolis, Diabetes Care 25:1835-1839, 2002

PATIENCE!

<25% ulcers healed at 12 weeks

Margolis Diabetes Care, 1999;22:692-695

Off Loading with Commercial Healing Shoes

Half Shoes ~$50-80

Removable Cast Walkers ~$150-500

70% patients did not increase activity and used device only 28% of time

30% patients record more activity, but only use device 60 % of time

Armstrong, Diabetes Care 26:2595-2597, 2003

Adjunctive Wound Healing Therapy

- All Associated with higher and faster healing rates
  - Growth factors (~15-25%)
  - Skin graphs (~50%)
  - Hyper baric Oxygen (~20%)
  - Electro-stimulation (?)
  - Maggot Therapy (~50%)
- Dependent on adequate vascular supply and clean wound
- High cost and not always covered by insurance

Weiman, Diabetes Care 1998;21:822-7;Gentzkow Diabetes Care 199;19:350-4; Faglia, Diabetes Care. 1997;20:1207-8; Peters, Foot Ankle Surge 1998;37:396-400; Veves, Diabetes Care 2001;24:290-295, Kessler Diabetes Care 2003;26:2378-2382; Carravaggi Diabetes Care 26:2853-2859, 2003; Sherman Diabetes Care 26:446-451, 2003

Adjunctive Wound Healing Therapy a Rational Approach

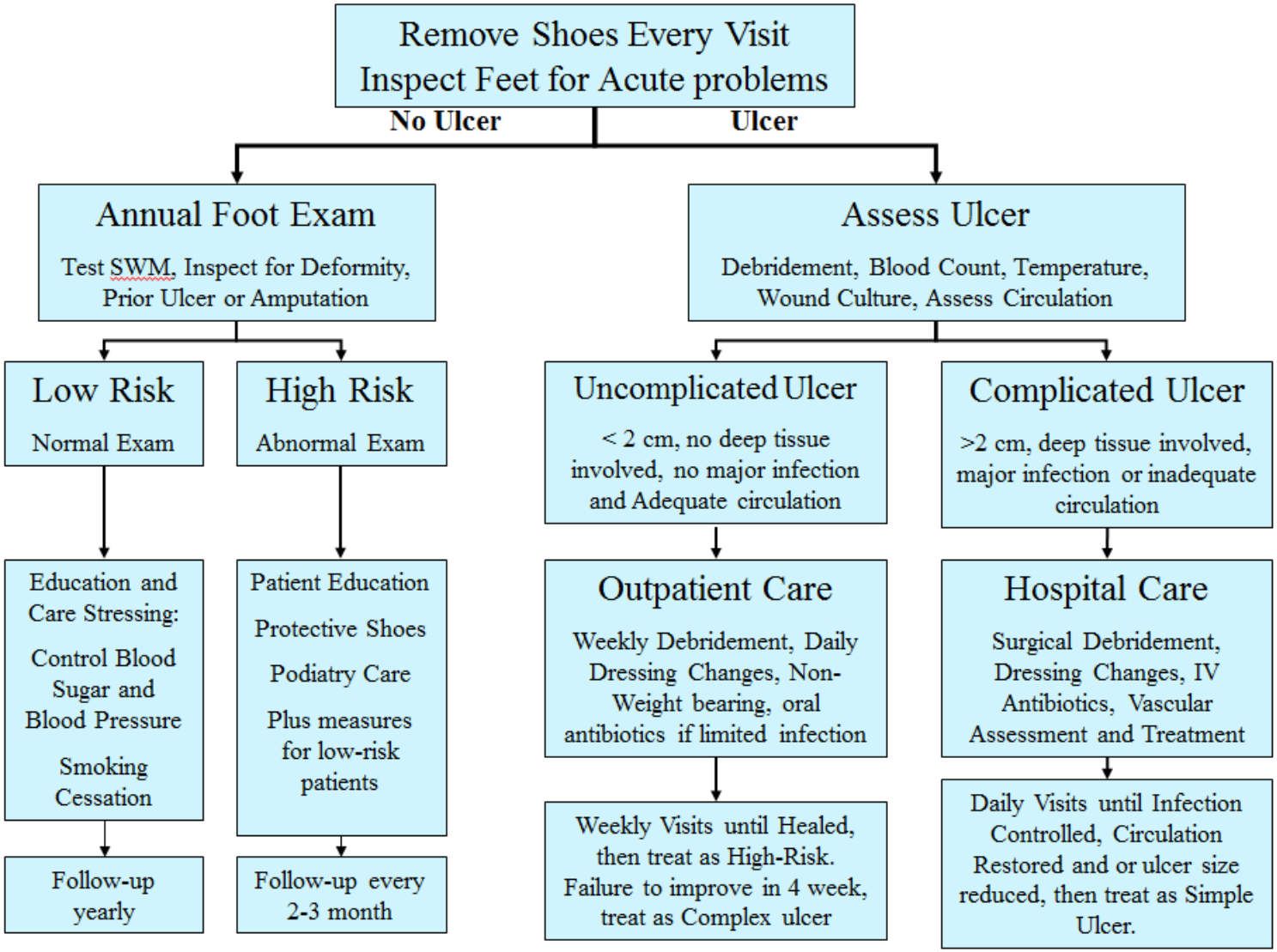
- Ensure the basics first: clean wound, off loading, control infection, good nutrition, metabolic control, assess circulation.

- Monitor healing, if less than 50% reduction in size after 4 weeks, chances of healing < 10%. Consider adjunctive agents as resources permit. *Sheehan, Diabetes Care 2003;26:1879-1882; Margolis, Diabetes Care 26:1696-1700, 2003*

- Some adjunctive treatments require large capital expenditures. Resources may be better spent on a case manager which can improve all aspects of diabetic care.

Criteria for Vascular Evaluation in the Diabetic Foot

- Ulcer with clinical signs of ischemia
- Non-healing ulcer
- Rest pain
- Nocturnal pain
- Lifestyle limiting claudication


Remove Shoes Every Visit
Inspect Feet for Acute problems
No Ulcer
Ulcer
Annual Foot Exam
Test SWM, Inspect for Deformity, Prior Ulcer or Amputation
Assess Ulcer
Debridement, Blood Count, Temperature, Wound Culture, Assess Circulation
Low Risk
Normal Exam
High Risk
Abnormal Exam
Uncomplicated Ulcer
< 2 cm, no deep tissue involved, no major infection and Adequate circulation
Complicated Ulcer
>2 cm, deep tissue involved, major infection or inadequate circulation
Education and Care Stressing:
Control Blood Sugar and Blood Pressure
Smoking Cessation
Patient Education
Protective Shoes
Podiatry Care
Plus measures for low-risk patients
Outpatient Care
Weekly Debridement, Daily Dressing Changes, Non-Weight bearing, oral antibiotics if limited infection
Hospital Care
Surgical Debridement, Dressing Changes, IV Antibiotics, Vascular Assessment and Treatment
Follow-up yearly
Follow-up every 2-3 month
Weekly Visits until Healed, then treat as High-Risk. Failure to improve in 4 week, treat as Complex ulcer
Daily Visits until Infection Controlled, Circulation Restored and or ulcer size reduced, then treat as Simple Ulcer.

Protecting the Diabetic Foot
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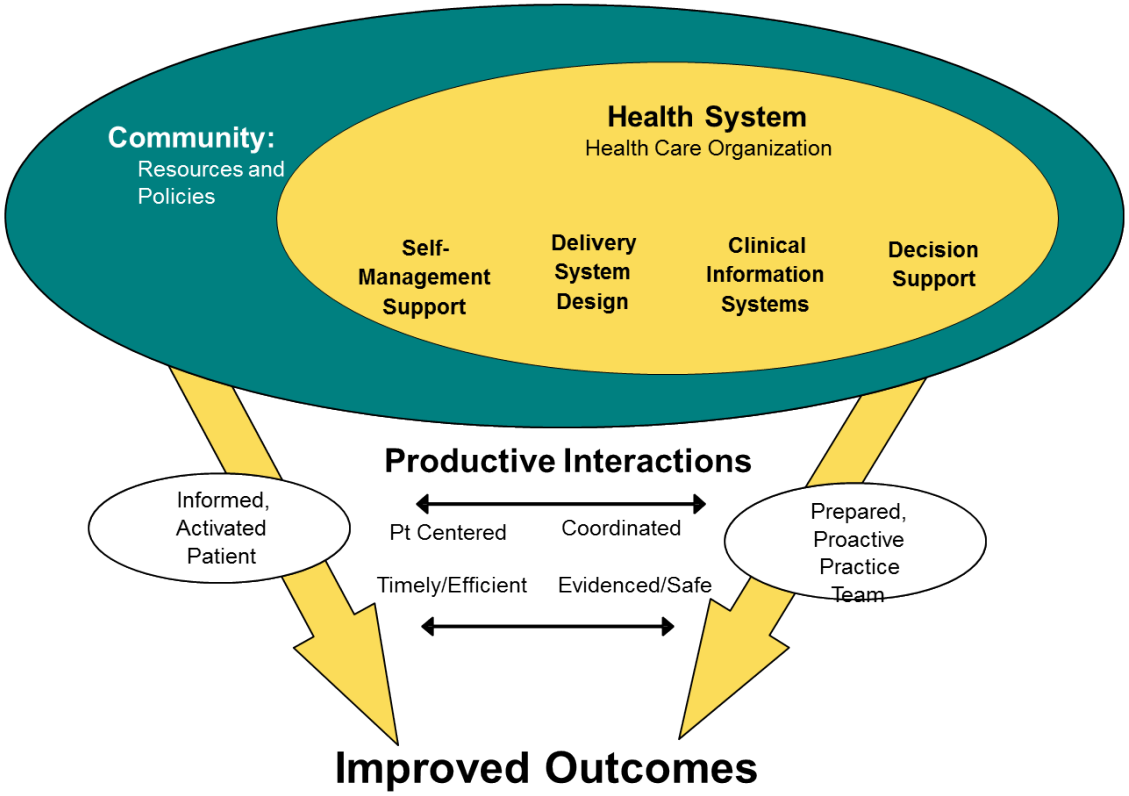
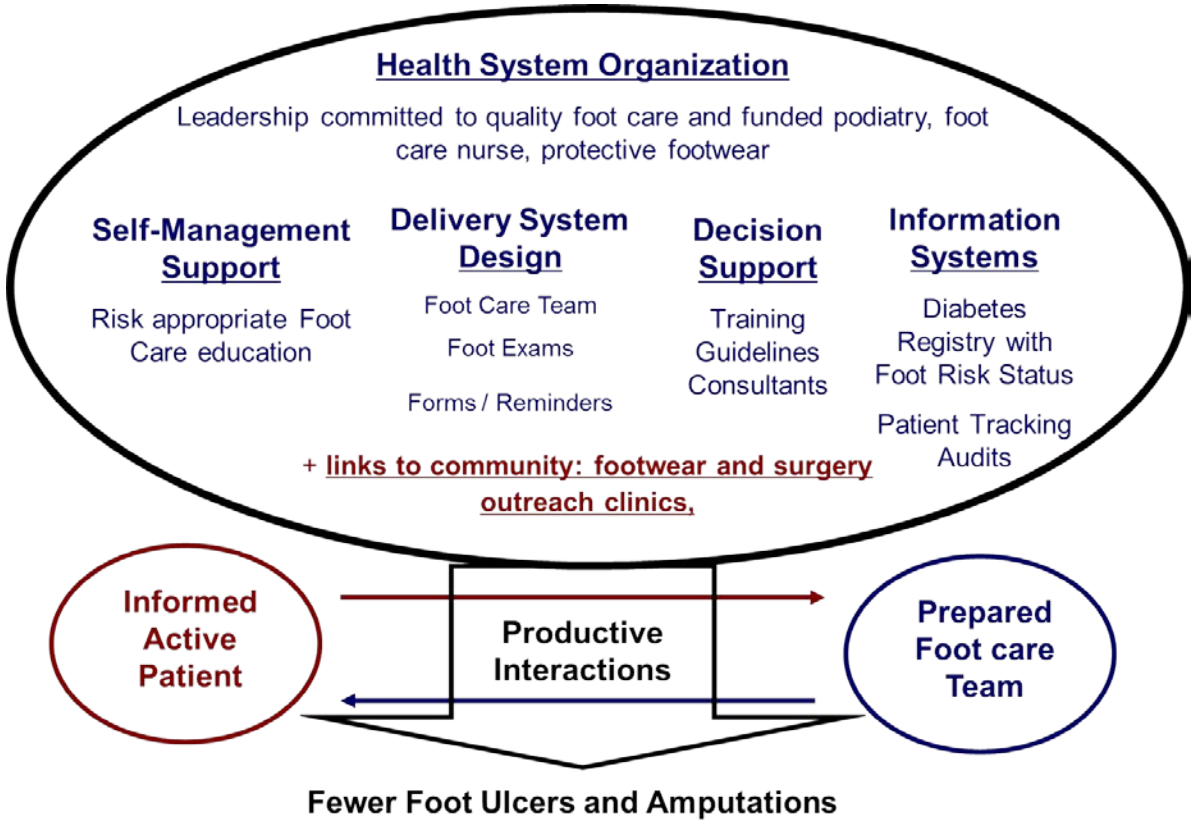
- *Implementation into Practice*

Improving Chronic Disease Care: The Chronic Care Model



Wagner EH. Effective Clinical Practice. 1998;1:2-4.

Chronic Care Model – Diabetic Foot Care Best Practice



Reiber, Lancet, 2005;366:1676-7

http://www.ihs.gov/MedicalPrograms/diabetes/resources/bestpractices.asp

System Redesign: Foot Care Team

Physician/PCP

Nurse Educator

Registrar and Patient Scheduling

PHN

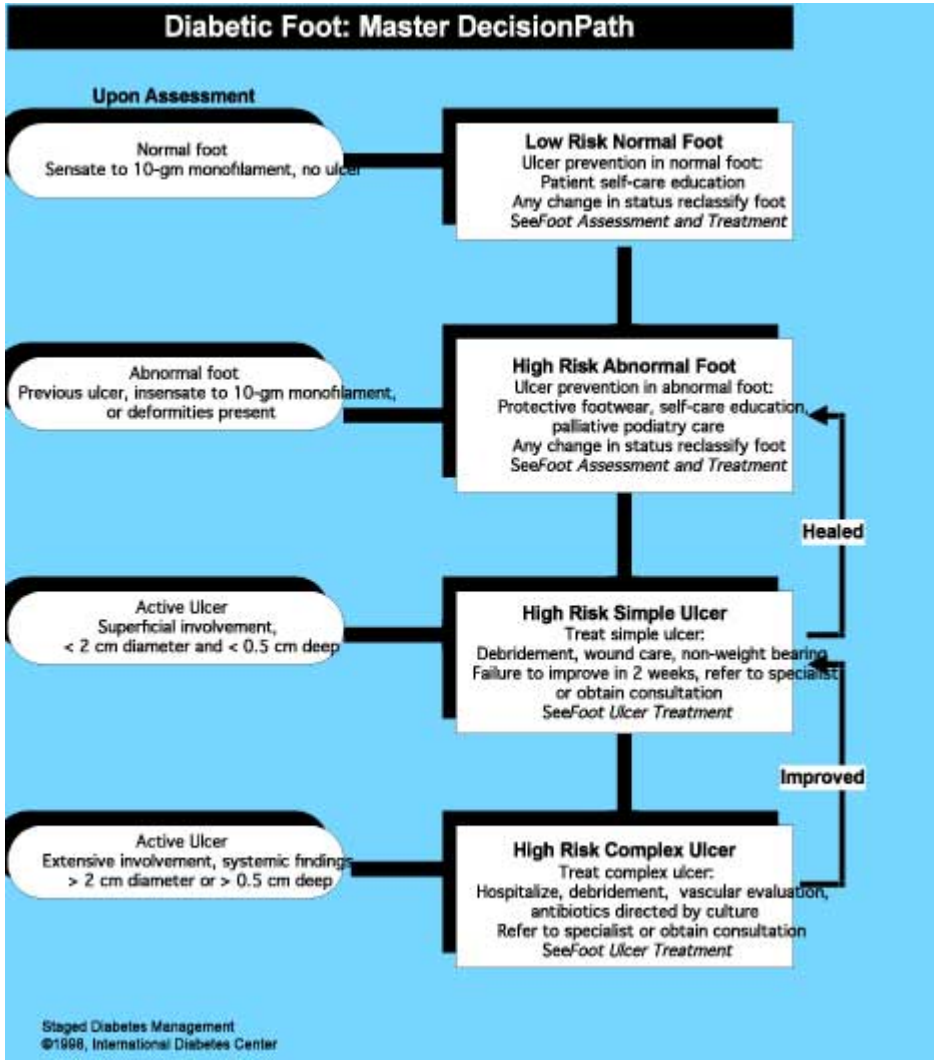
Podiatrist

CHR

Surgeon

Clinic Administration and leadership

Decision Support
Foot Care Guidelines



Rith-Najarian, J Fam Pract 1998;47:128-132

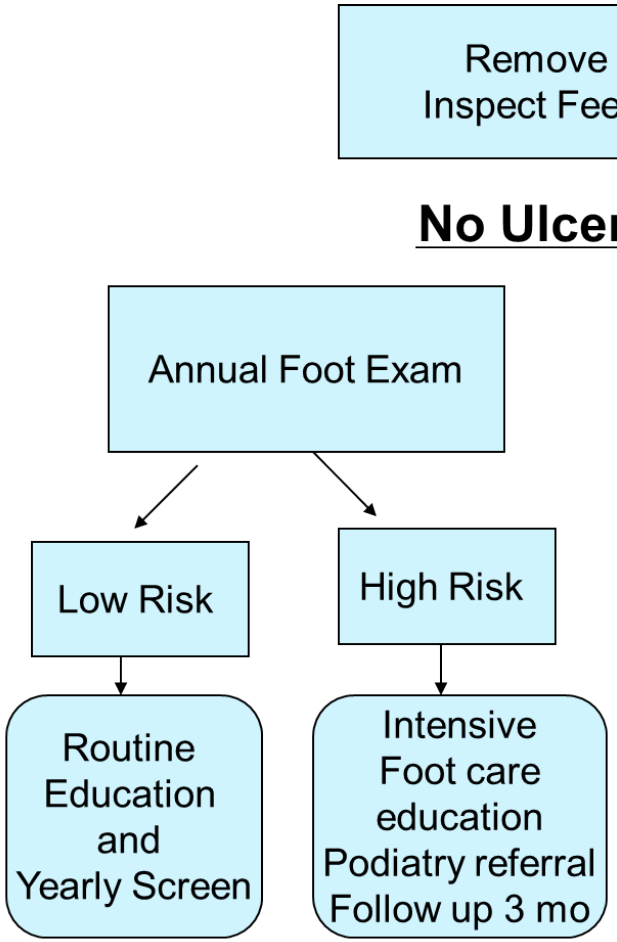
1994-1996 System Redesign
Foot Care Team

Moving the Guideline to Practice

Team Coordination

- Input from the team to customize Guidelines
- Delineation of roles
- Documentation
- Training needs
- Measures for monitoring and evaluation

Example of Customization Questions



Annual Foot Exams are performed by:

_____

_____

Documented on Form_____

Form is located _____

Information from exam goes to

_____

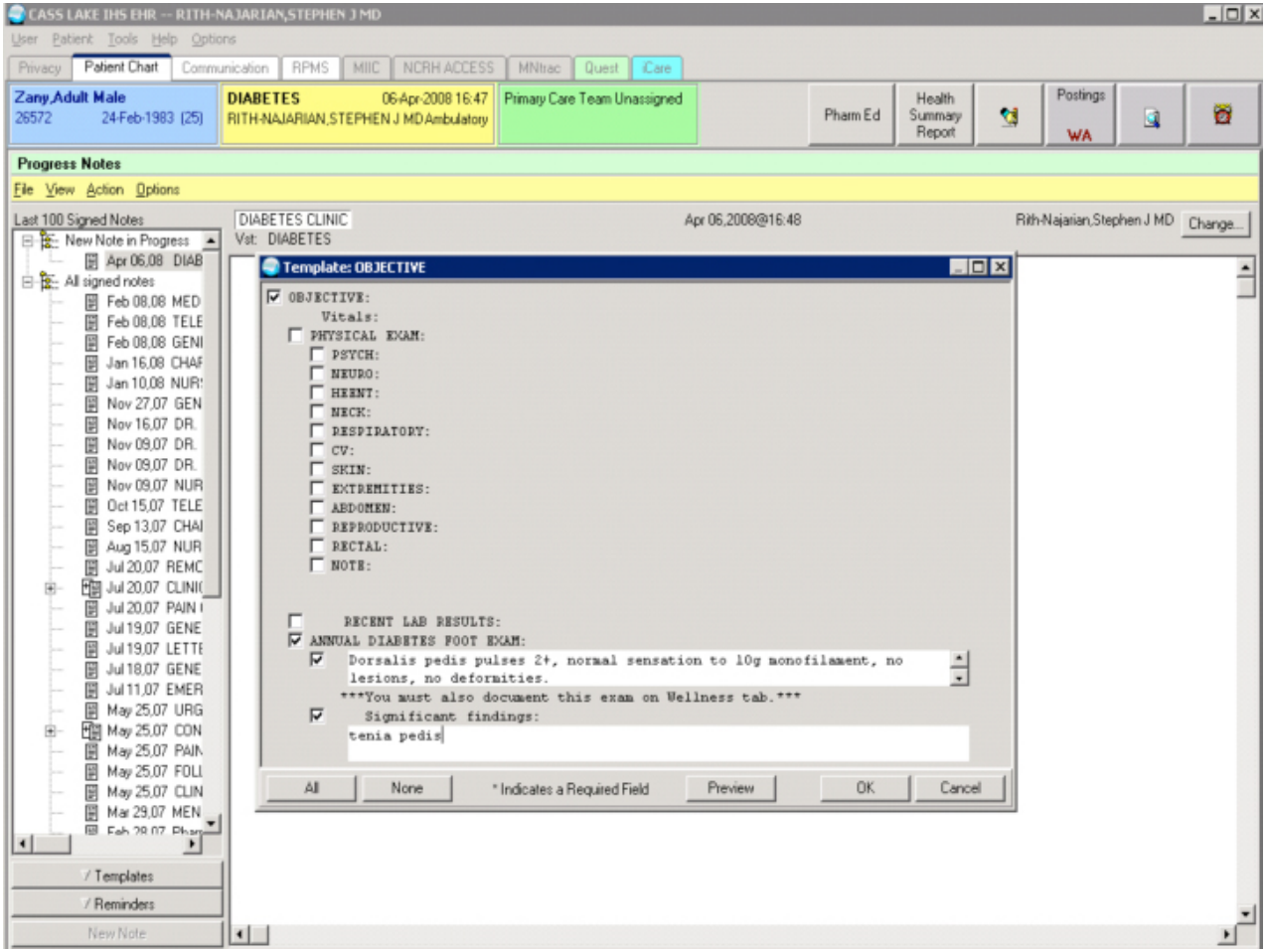
_____

Staff trained to perform exam and refer high risk and acute problems

_____

1994-1996 System Redesign Reminders and Documentation Forms

- Exam & Risk Factors
- Assessment
- Treatment plan
- Referrals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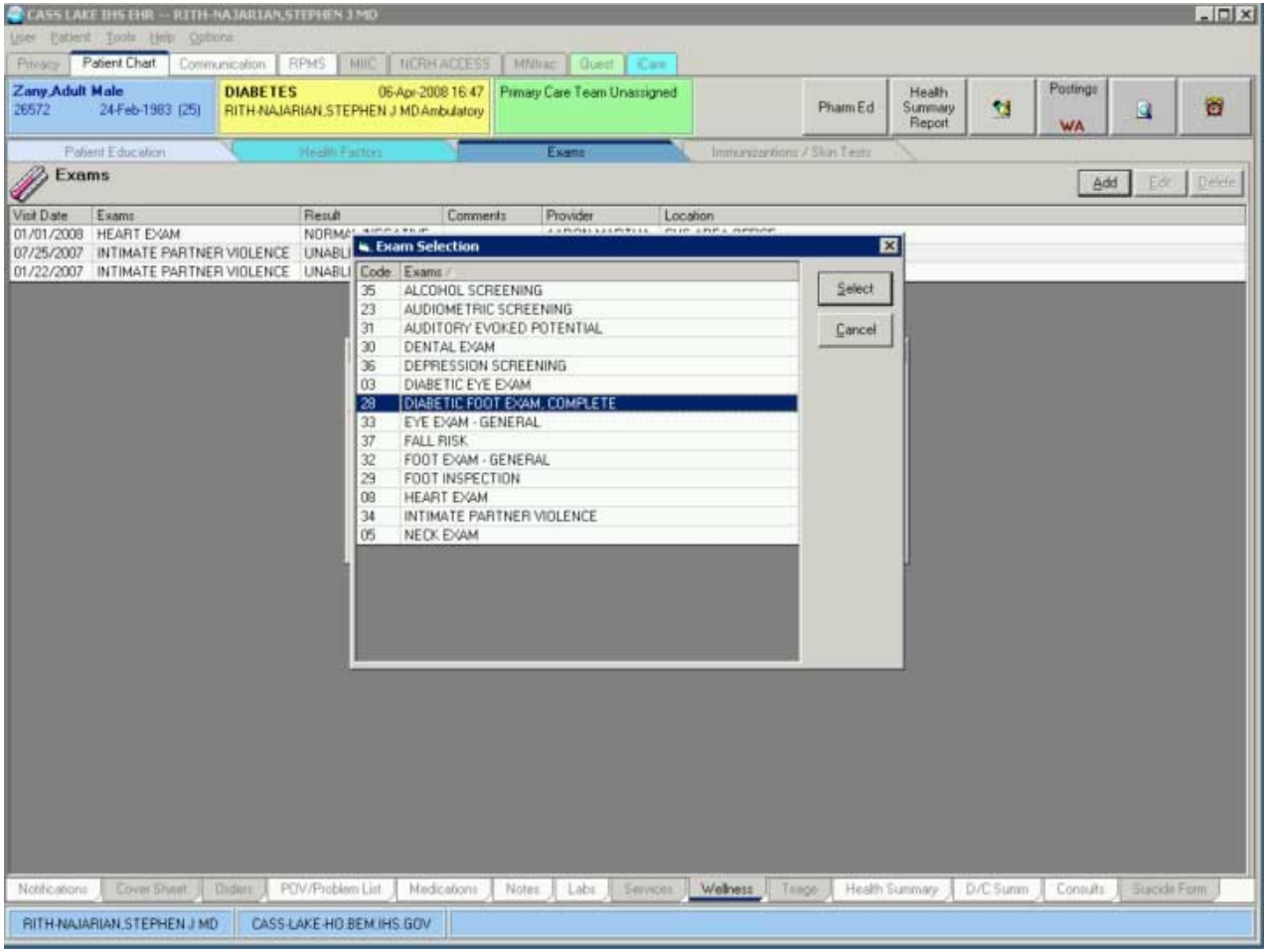
User Patient Tools Help Options
Privacy Patient Chart Communication RPMS MIIC NCRH ACCESS MNtrac Quest iCare
Zany,Adult Male
26572 24-Feb-1983 (25)
DIABETES 06-Apr-2008 16:47
RITH-NAJARIAN,STEPHEN J MD Ambulatory
Primary Care Team Unassigned
Pharm Ed
Health Summary Report
Postings
WA
Progress Notes
File View Action Options
Last 100 Signed Notes
New Note in Progress
Apr 06,08 DIAB
All signed notes
Feb 08,08 MED
Feb 08,08 TELE
Feb 08,08 GENI
Jan 16,08 CHAF
Jan 10,08 NURS
Nov 27,07 GEN
Nov 16,07 DR.
Nov 09,07 DR.
Nov 09,07 DR.
Nov 09,07 NUR
Oct 15,07 TELE
Sep 13,07 CHAI
Aug 15,07 NUR
Jul 20,07 REMC
Jul 20,07 CLINI
Jul 20,07 PAIN
Jul 19,07 GENE
Jul 19,07 LETTE
Jul 18,07 GENE
Jul 11,07 EMER
May 25,07 URG
May 25,07 CON
May 25,07 PAIN
May 25,07 FOLI
May 25,07 CLIN
Mar 29,07 MEN
/ Templates
/ Reminders
New Note
DIABETES CLINIC
Vst: DIABETES
Apr 06,2008@16:48
Rith-Najarian,Stephen J MD
Change...
Template: OBJECTIVE
OBJECTIVE:
Vitals:
PHYSICAL EXAM:
PSYCH:
NEURO:
HEENT:
NECK:
RESPIRATORY:
CV:
SKIN:
EXTREMITIES:
ABDOMEN:
REPRODUCTIVE:
RECTAL:
NOTE:
RECENT LAB RESULTS:
ANNUAL DIABETES FOOT EXAM:
Dorsalis pedis pulses 2+, normal sensation to 10g monofilament, no lesions, no deformities.
You must also document this exam on Wellness tab.
Significant findings:
tenia pedis
All
None
* Indicates a Required Field
Preview
OK
Cancel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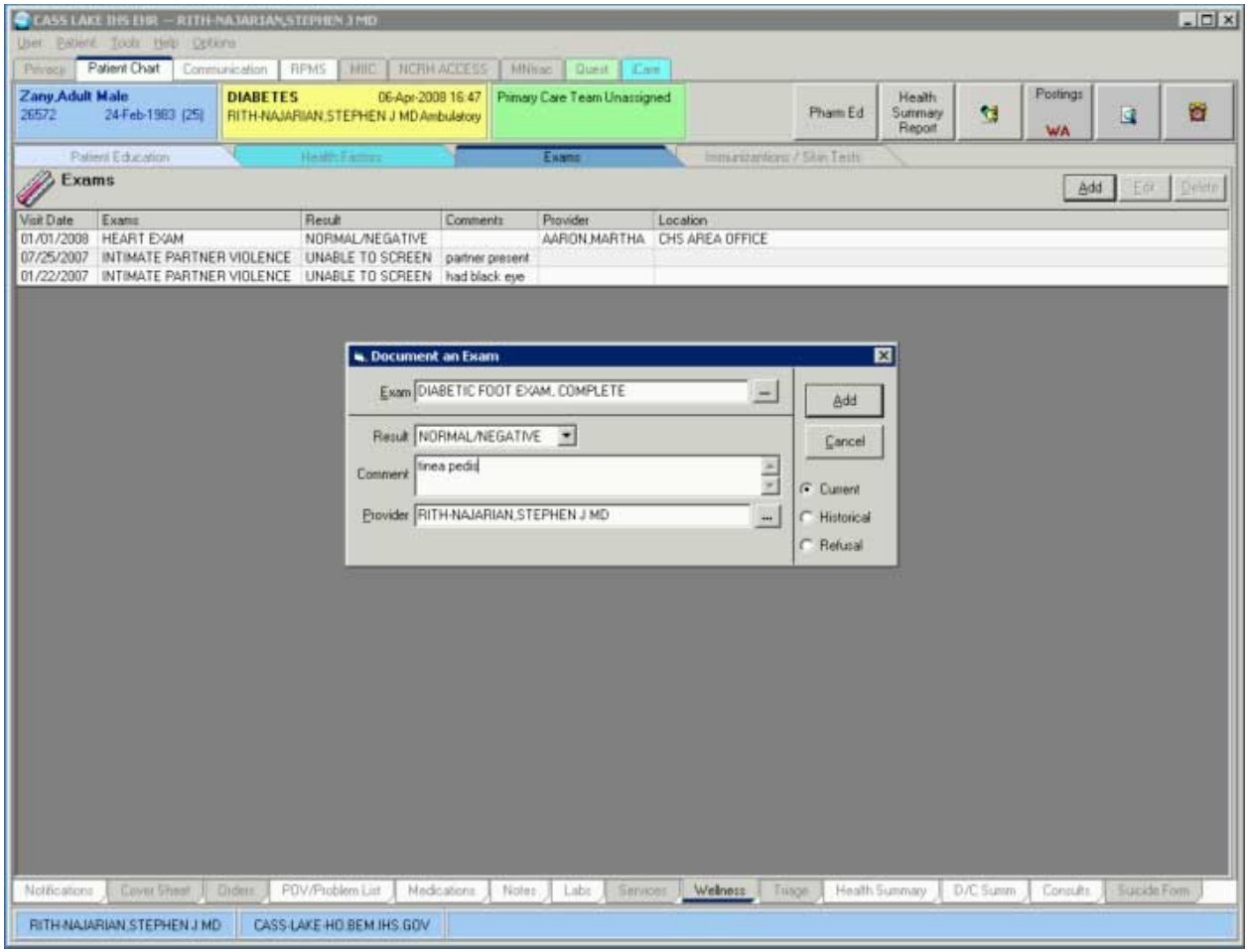
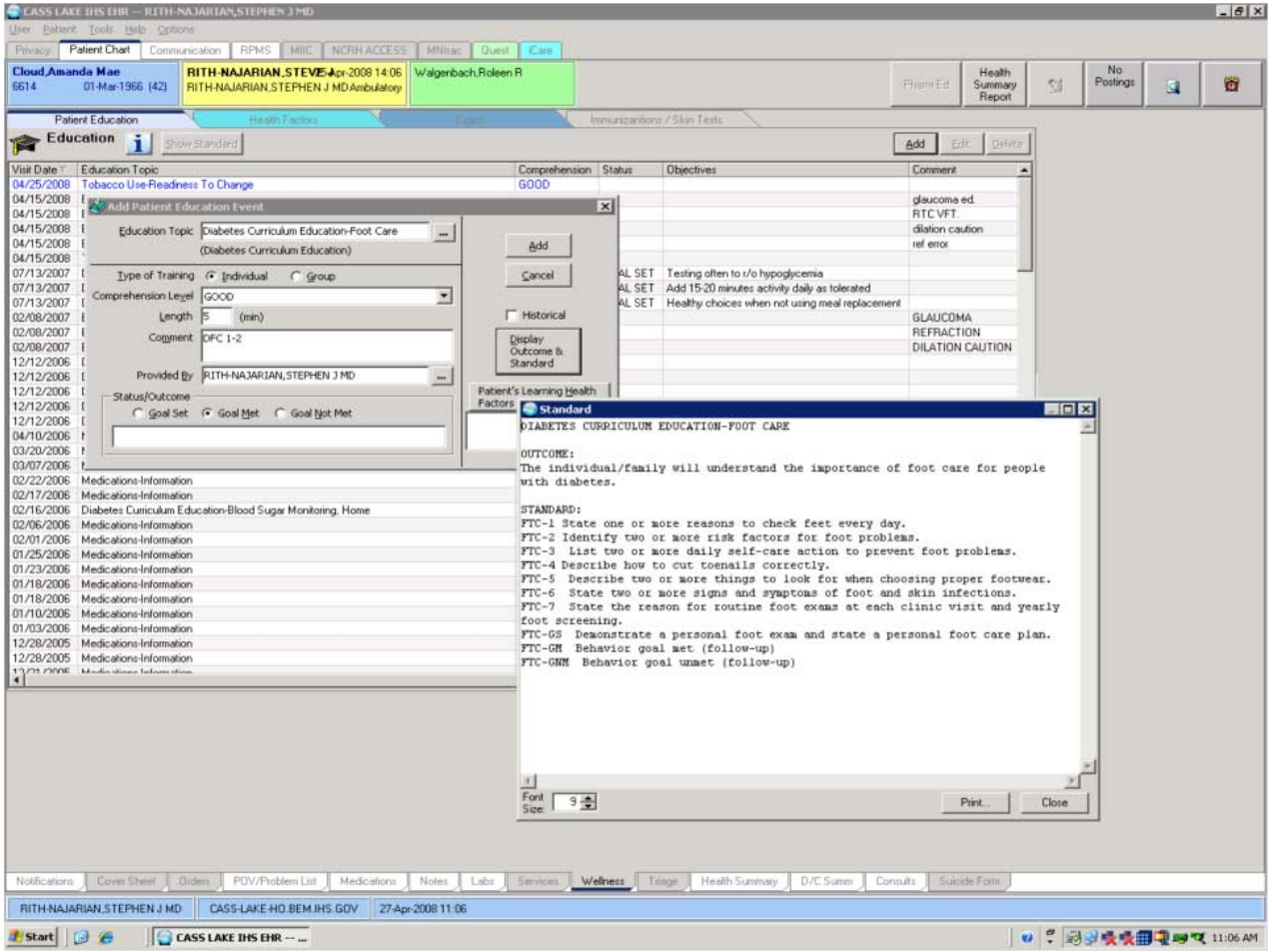
DIABETES 06-Apr-2008 16:47
RITH-NAJARIAN,STEPHEN J MD Ambulatory
Primary Care Team Unassigned
Pharm Ed
Health Summary Report
Postings
WA
Patient Education
Health Factors
Exams
Immunizations / Skin Tests
Exams
Add
Edit
Delete
Visit Date
Exams
Result
Comments
Provider
Location
01/01/2008 HEART EXAM
07/25/2007 INTIMATE PARTNER VIOLENCE
01/22/2007 INTIMATE PARTNER VIOLENCE
Exam Selection
Code
Exams
35 ALCOHOL SCREENING
23 AUDIOMETRIC SCREENING
31 AUDITORY EVOKED POTENTIAL
30 DENTAL EXAM
36 DEPRESSION SCREENING
03 DIABETIC EYE EXAM
28 DIABETIC FOOT EXAM, COMPLETE
33 EYE EXAM - GENERAL
37 FALL RISK
32 FOOT EXAM - GENERAL
29 FOOT INSPECTION
08 HEART EXAM
34 INTIMATE PARTNER VIOLENCE
05 NECK EXAM
Select
Cancel
Notifications Cover Sheet Orders POV/Problem List Medications Notes Labs Services Wellness Triage Health Summary D/C Summ Consults Suicide Form
RITH-NAJARIAN,STEPHEN J MD
CASS-LAKE-HO.BEM.IHS.GOV


CASS LAKE IHS EHR — RITH-NAJARIAN,STEPHEN J MD
User Patient Tools Help Options
Privacy Patient Chart Communication RPMS MIIC NCRH ACCESS MNirac Quest iCare
Zany,Adult Male
26572 24-Feb-1983 (25)
DIABETES 06-Apr-2008 16:47
RITH-NAJARIAN,STEPHEN J MD Ambulatory
Primary Care Team Unassigned
Pharm Ed
Health Summary Report
Postings
WA
Patient Education Health Factors Exams Immunizations / Skin Tests
Exams
Add Edit Delete
Visit Date Exams Result Comments Provider Location
01/01/2008 HEART EXAM NORMAL/NEGATIVE AARON,MARTHA CHS AREA OFFICE
07/25/2007 INTIMATE PARTNER VIOLENCE UNABLE TO SCREEN partner present
01/22/2007 INTIMATE PARTNER VIOLENCE UNABLE TO SCREEN had black eye
Document an Exam
Exam DIABETIC FOOT EXAM, COMPLETE
Result NORMAL/NEGATIVE
Comment tinea pedis
Provider RITH-NAJARIAN,STEPHEN J MD
Add
Cancel
Current
Historical
Refusal
Notifications Cover Sheet Orders POV/Problem List Medications Notes Labs Services Wellness Triage Health Summary D/C Summ Consults Suicide Form
RITH-NAJARIAN,STEPHEN J MD
CASS-LAKE-HO.BEM.IHS.GOV

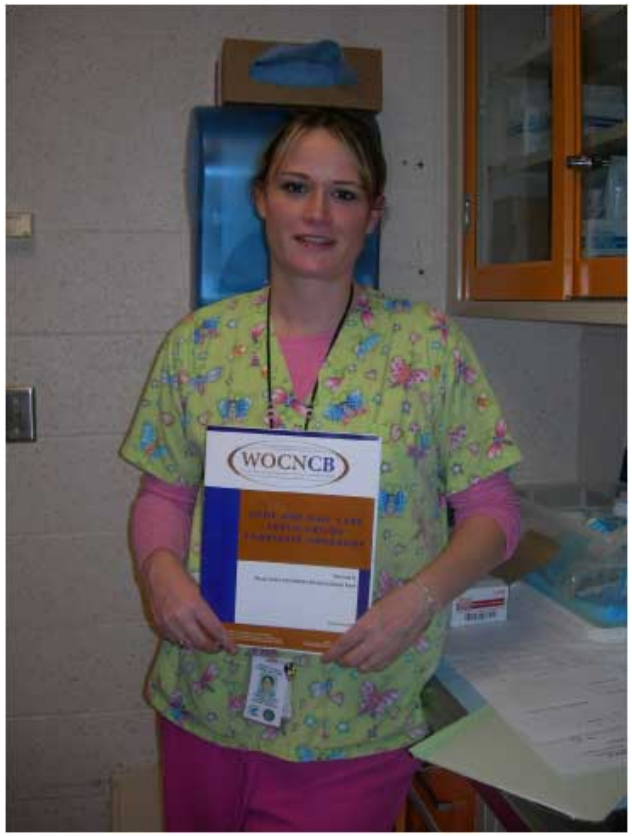

CASS LAKE IHS EHR -- RITH-NAJARIAN,STEPHEN J MD
Cloud,Amanda Mae
6614 01-Mar-1966 (42)
RITH-NAJARIAN,STEVE 5-Apr-2008 14:06
RITH-NAJARIAN,STEPHEN J MD Ambulatory
Walgenbach,Roleen R
Patient Education
Education
Show Standard
Add
Edit
Delete
Visit Date
Education Topic
Comprehension
Status
Objectives
Comment
04/25/2008 Tobacco Use-Readiness To Change GOOD
Add Patient Education Event
Education Topic
Diabetes Curriculum Education-Foot Care
(Diabetes Curriculum Education)
Type of Training
Individual
Group
Comprehension Level
GOOD
Length
5
(min)
Comment
DFC 1-2
Provided By
RITH-NAJARIAN,STEPHEN J MD
Status/Outcome
Goal Set
Goal Met
Goal Not Met
Add
Cancel
Historical
Display Outcome & Standard
Patient's Learning Health Factors
Standard
DIABETES CURRICULUM EDUCATION-FOOT CARE
OUTCOME:
The individual/family will understand the importance of foot care for people with diabetes.
STANDARD:
FTC-1 State one or more reasons to check feet every day.
FTC-2 Identify two or more risk factors for foot problems.
FTC-3 List two or more daily self-care action to prevent foot problems.
FTC-4 Describe how to cut toenails correctly.
FTC-5 Describe two or more things to look for when choosing proper footwear.
FTC-6 State two or more signs and symptoms of foot and skin infections.
FTC-7 State the reason for routine foot exams at each clinic visit and yearly foot screening.
FTC-GS Demonstrate a personal foot exam and state a personal foot care plan.
FTC-GM Behavior goal met (follow-up)
FTC-GNM Behavior goal unmet (follow-up)
Font Size
Print...
Close
Notifications
Cover Sheet
Orders
POV/Problem List
Medications
Notes
Labs
Services
Wellness
Triage
Health Summary
D/C Summ
Consults
Suicide Form
RITH-NAJARIAN,STEPHEN J MD
CASS-LAKE-HO.BEM.IHS.GOV
27-Apr-2008 11:06
Start
11:06 AM

System Redesign: Foot Care Case Manager

Foot and Nail Care Certification
Wound, Ostomy and Continence Nurses Certification Board

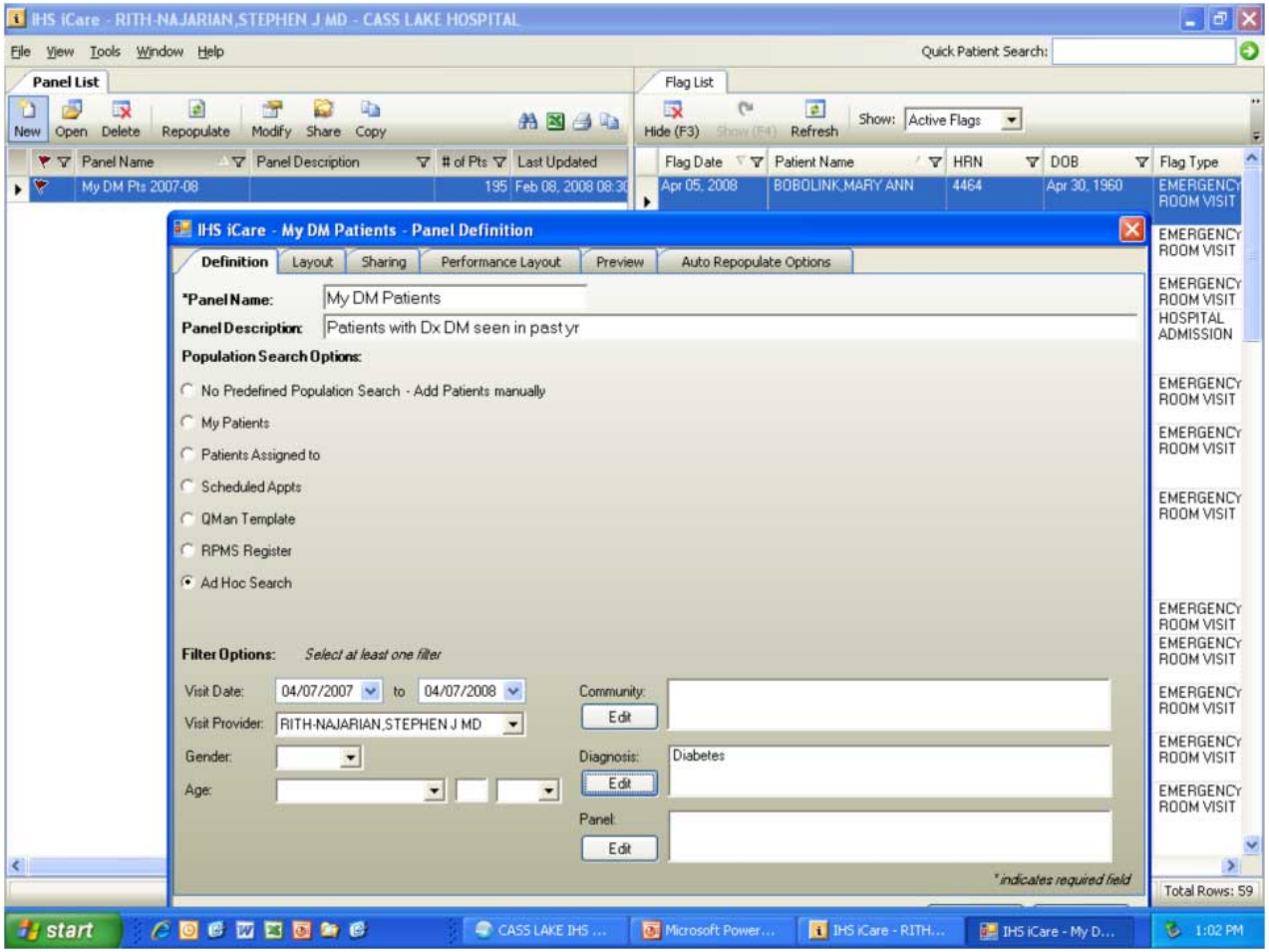
Exam Eligibility Requirements

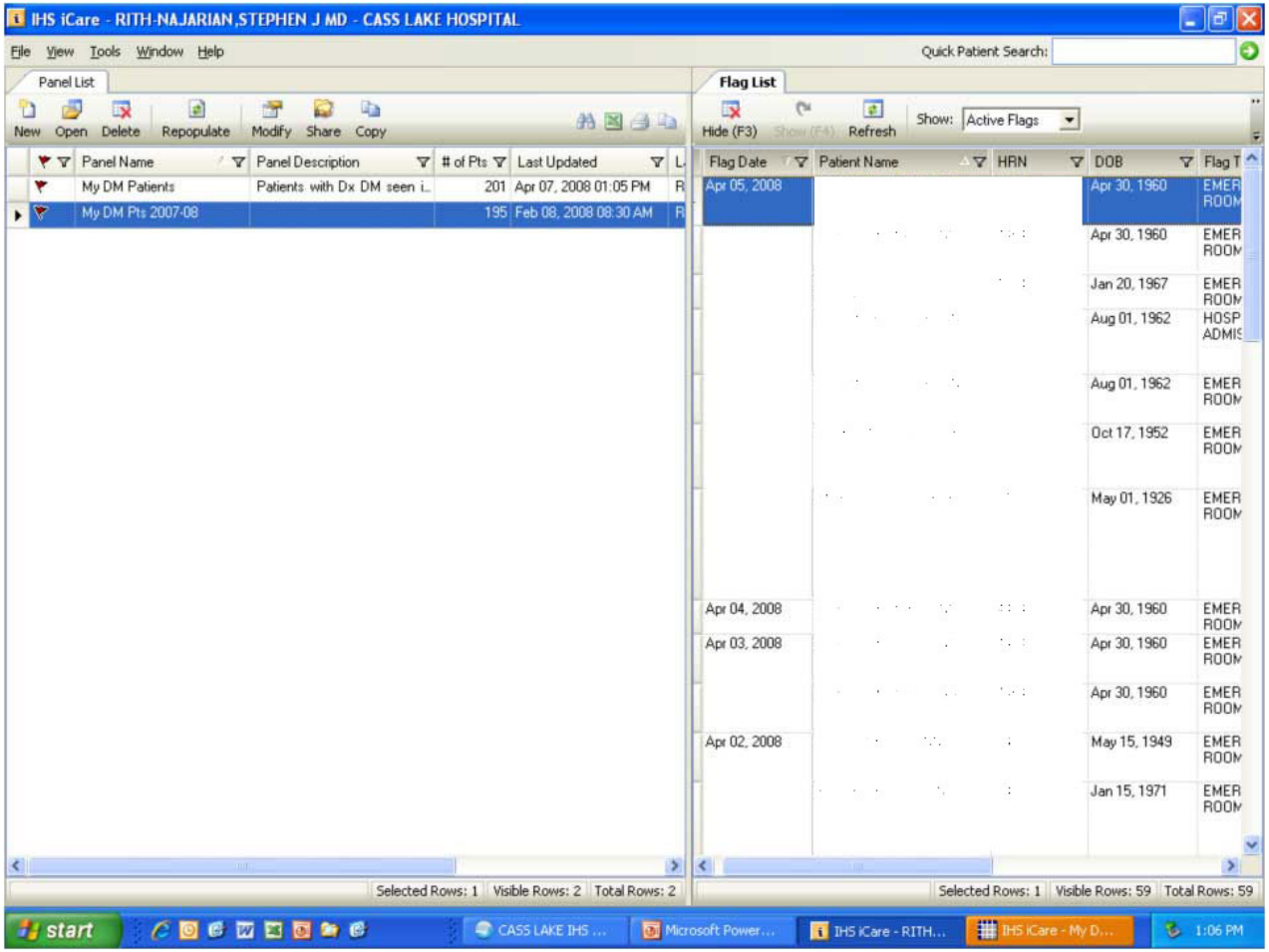
- Current RN license, and either #2 or #3:
- Completion of formal foot and nail program including five hours didactic; three hours of clinical practice with direct foot and nail care, or
- Completion of experiential pathway including five hours CE; plus eight hours of clinical practice (under supervision of expert).

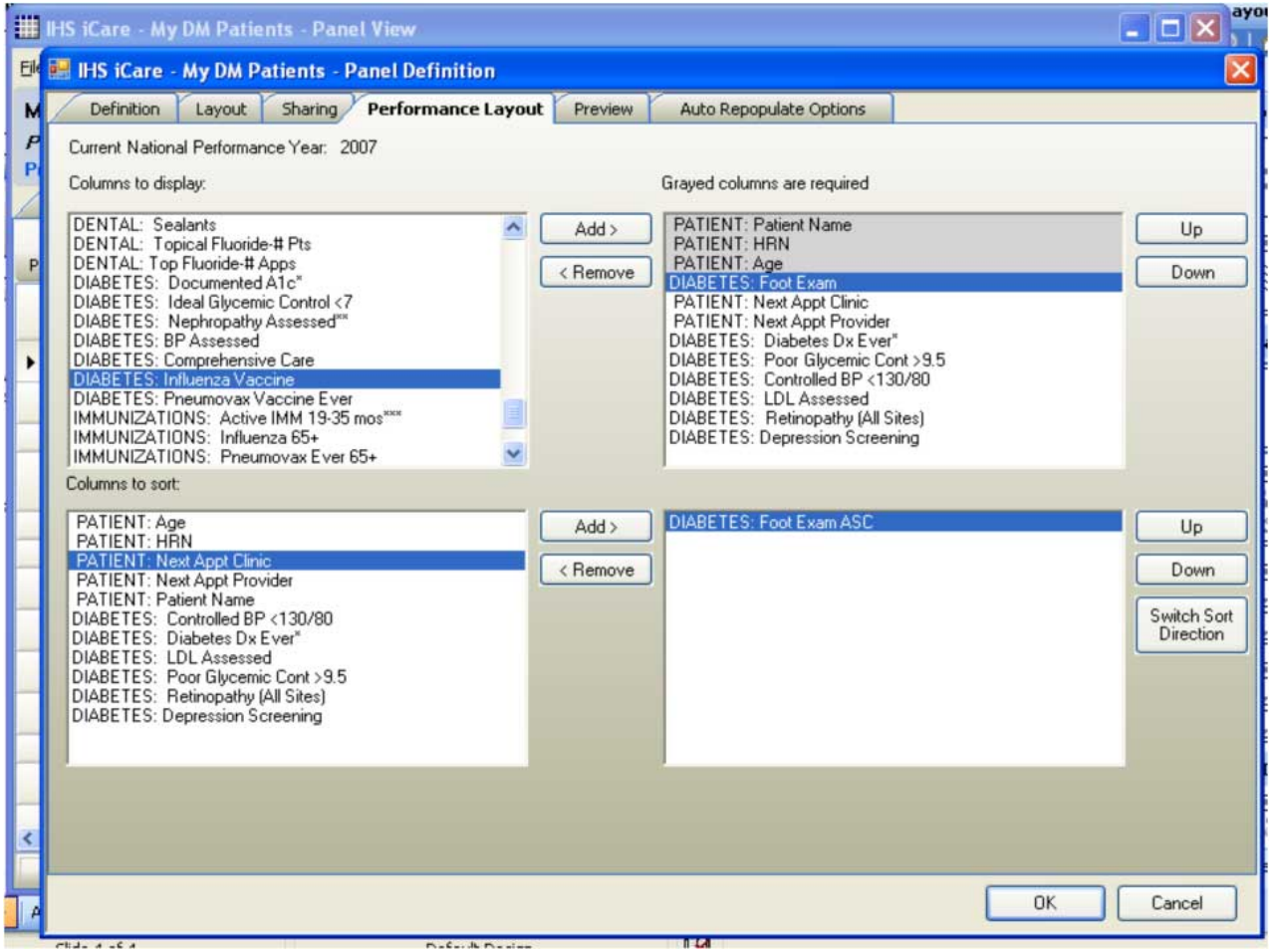


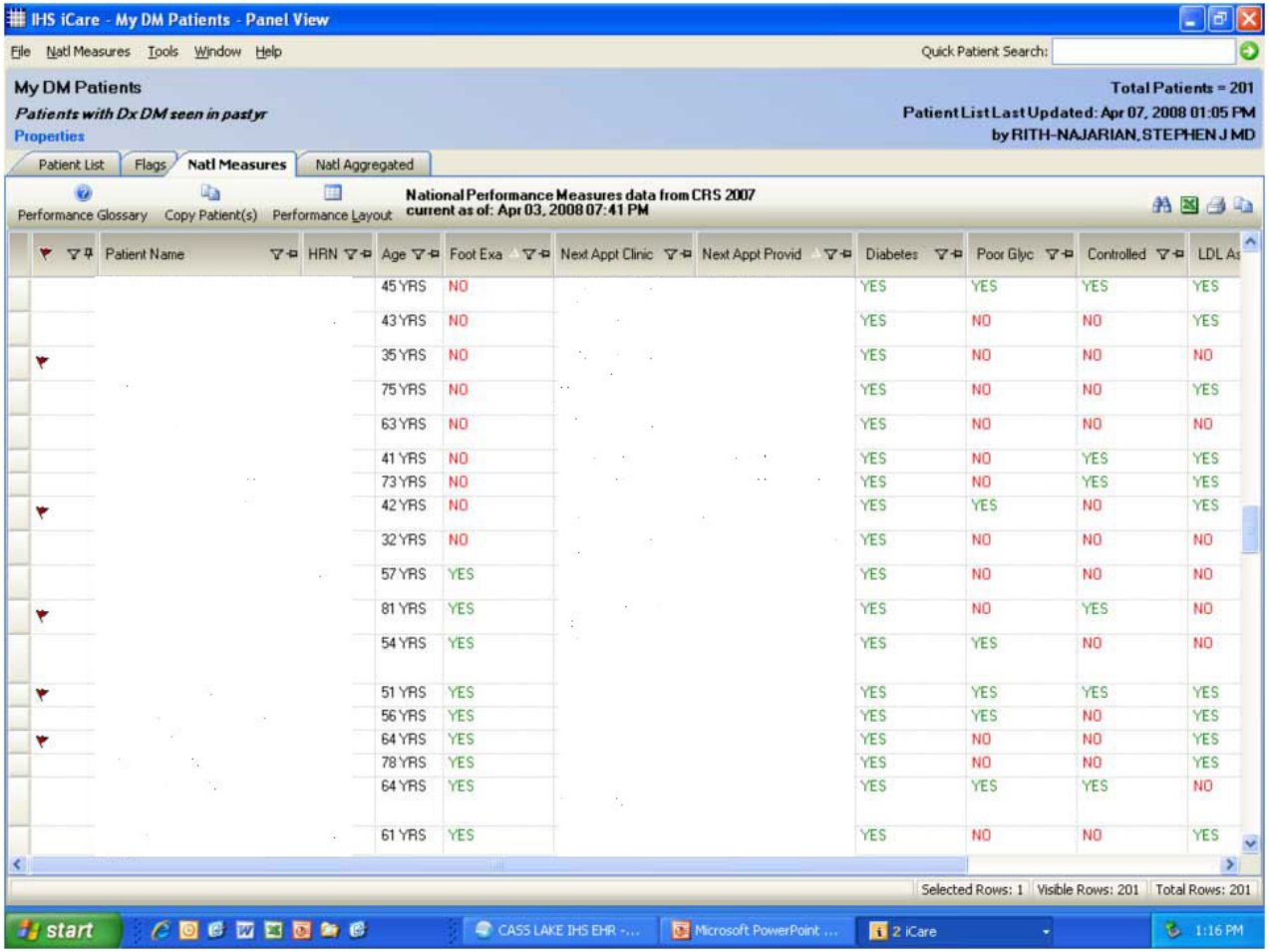
Training : http://www.wocncb.org/become-certified/foot-and-nail/education-courses.php
Exam: http://www.wocncb.org/become-certified/foot-and-nail/eligibility.php

Information Technology
Electronic Diabetes Registry

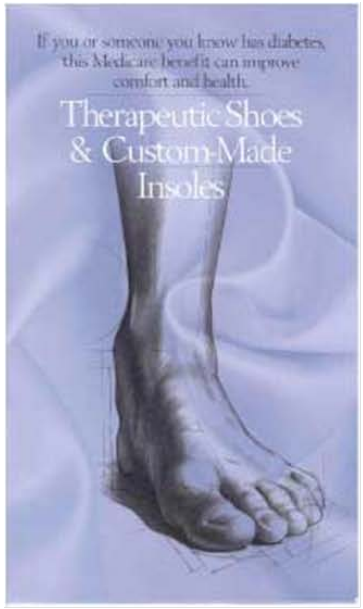

IHS iCare - RITH-NAJARIAN,STEPHEN J MD - CASS LAKE HOSPITAL
File View Tools Window Help
Quick Patient Search:
Panel List
New Open Delete Repopulate Modify Share Copy
Panel Name Panel Description # of Pts Last Updated
My DM Pts 2007-08 195 Feb 08, 2008 08:30
Flag List
Hide (F3) Refresh Show: Active Flags
Flag Date Patient Name HRN DOB Flag Type
Apr 05, 2008 BOBOLINK,MARY ANN 4464 Apr 30, 1960 EMERGENCY ROOM VISIT
IHS iCare - My DM Patients - Panel Definition
Definition Layout Sharing Performance Layout Preview Auto Repopulate Options
*Panel Name: My DM Patients
Panel Description: Patients with Dx DM seen in past yr
Population Search Options:
No Predefined Population Search - Add Patients manually
My Patients
Patients Assigned to
Scheduled Appts
QMan Template
RPMS Register
Ad Hoc Search
Filter Options: Select at least one filter
Visit Date: 04/07/2007 to 04/07/2008
Visit Provider: RITH-NAJARIAN,STEPHEN J MD
Gender:
Age:
Community: Edit
Diagnosis: Edit Diabetes
Panel: Edit
* indicates required field
EMERGENCY ROOM VISIT
HOSPITAL ADMISSION
Total Rows: 59
start
CASS LAKE IHS ...
Microsoft Power...
IHS iCare - RITH...
IHS iCare - My D...
1:02 PM


IHS iCare - RITH-NAJARIAN,STEPHEN J MD - CASS LAKE HOSPITAL
File View Tools Window Help
Quick Patient Search:
Panel List
New Open Delete Repopulate Modify Share Copy
Panel Name
Panel Description
# of Pts
Last Updated
My DM Patients
Patients with Dx DM seen i..
201
Apr 07, 2008 01:05 PM
My DM Pts 2007-08
195
Feb 08, 2008 08:30 AM
Selected Rows: 1
Visible Rows: 2
Total Rows: 2
Flag List
Hide (F3)
Refresh
Show:
Active Flags
Flag Date
Patient Name
HRN
DOB
Apr 05, 2008
Apr 30, 1960
Apr 30, 1960
Jan 20, 1967
Aug 01, 1962
Aug 01, 1962
Oct 17, 1952
May 01, 1926
Apr 04, 2008
Apr 30, 1960
Apr 03, 2008
Apr 30, 1960
Apr 30, 1960
Apr 02, 2008
May 15, 1949
Jan 15, 1971
EMER ROOM
HOSP ADMIS
Selected Rows: 1
Visible Rows: 59
Total Rows: 59
start
CASS LAKE IHS ...
Microsoft Power...
IHS iCare - RITH...
IHS iCare - My D...
1:06 PM


IHS iCare - My DM Patients - Panel View
IHS iCare - My DM Patients - Panel Definition
Definition
Layout
Sharing
Performance Layout
Preview
Auto Repopulate Options
Current National Performance Year: 2007
Columns to display:
Grayed columns are required
DENTAL: Sealants
DENTAL: Topical Fluoride-# Pts
DENTAL: Top Fluoride-# Apps
DIABETES: Documented A1c*
DIABETES: Ideal Glycemic Control <7
DIABETES: Nephropathy Assessed**
DIABETES: BP Assessed
DIABETES: Comprehensive Care
DIABETES: Influenza Vaccine
DIABETES: Pneumovax Vaccine Ever
IMMUNIZATIONS: Active IMM 19-35 mos***
IMMUNIZATIONS: Influenza 65+
IMMUNIZATIONS: Pneumovax Ever 65+
Add >
< Remove
PATIENT: Patient Name
PATIENT: HRN
PATIENT: Age
DIABETES: Foot Exam
PATIENT: Next Appt Clinic
PATIENT: Next Appt Provider
DIABETES: Diabetes Dx Ever*
DIABETES: Poor Glycemic Cont >9.5
DIABETES: Controlled BP <130/80
DIABETES: LDL Assessed
DIABETES: Retinopathy (All Sites)
DIABETES: Depression Screening
Up
Down
Columns to sort:
PATIENT: Age
PATIENT: HRN
PATIENT: Next Appt Clinic
PATIENT: Next Appt Provider
PATIENT: Patient Name
DIABETES: Controlled BP <130/80
DIABETES: Diabetes Dx Ever*
DIABETES: LDL Assessed
DIABETES: Poor Glycemic Cont >9.5
DIABETES: Retinopathy (All Sites)
DIABETES: Depression Screening
Add >
< Remove
DIABETES: Foot Exam ASC
Up
Down
Switch Sort Direction
OK
Cancel

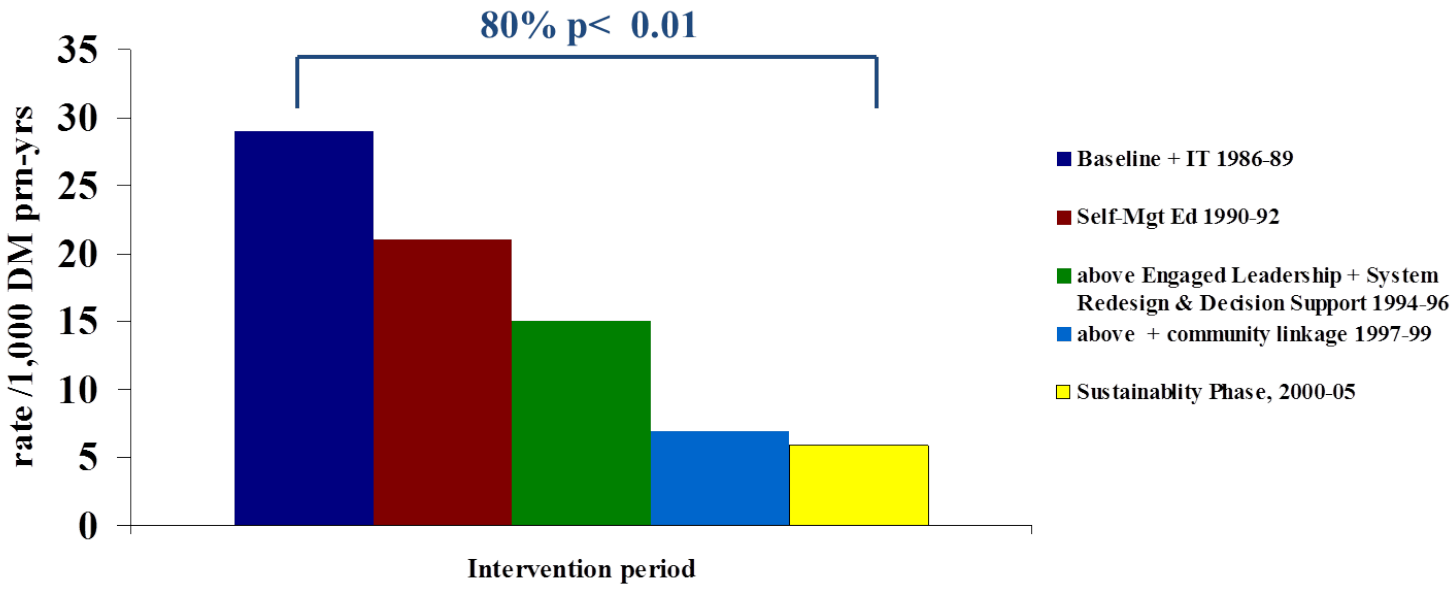

IHS iCare - My DM Patients - Panel View
File Natl Measures Tools Window Help
Quick Patient Search:
My DM Patients
Patients with Dx DM seen in past yr
Properties
Total Patients = 201
Patient List Last Updated: Apr 07, 2008 01:05 PM
by RITH-NAJARIAN,STEPHEN J MD
Patient List
Flags
Natl Measures
Natl Aggregated
Performance Glossary
Copy Patient(s)
Performance Layout
National Performance Measures data from CRS 2007
current as of: Apr 03, 2008 07:41 PM
Patient Name
HRN
Age
Foot Exa
Next Appt Clinic
Next Appt Provid
Diabetes
Poor Glyc
Controlled
LDL As
45 YRS NO YES YES YES YES
43 YRS NO YES NO NO YES
35 YRS NO YES NO NO NO
75 YRS NO YES NO NO YES
63 YRS NO YES NO NO NO
41 YRS NO YES NO YES YES
73 YRS NO YES NO YES YES
42 YRS NO YES YES NO YES
32 YRS NO YES NO NO NO
57 YRS YES YES NO NO NO
81 YRS YES YES NO YES NO
54 YRS YES YES YES NO NO
51 YRS YES YES YES YES YES
56 YRS YES YES YES NO YES
64 YRS YES YES NO NO YES
78 YRS YES YES NO NO YES
64 YRS YES YES YES YES NO
61 YRS YES YES NO NO YES
Selected Rows: 1
Visible Rows: 201
Total Rows: 201
start
CASS LAKE IHS EHR -...
Microsoft PowerPoint ...
2 iCare
1:16 PM

Community Linkages
Referrals for Therapeutic Footwear



Community Linkage
Wound Care Outreach Clinic

Average Annual Incidence Lower Extremity Amputations (LEA) among Diabetic Patients according to Chronic Care Model Intervention Period in an Indian Health Service Primary Care Setting

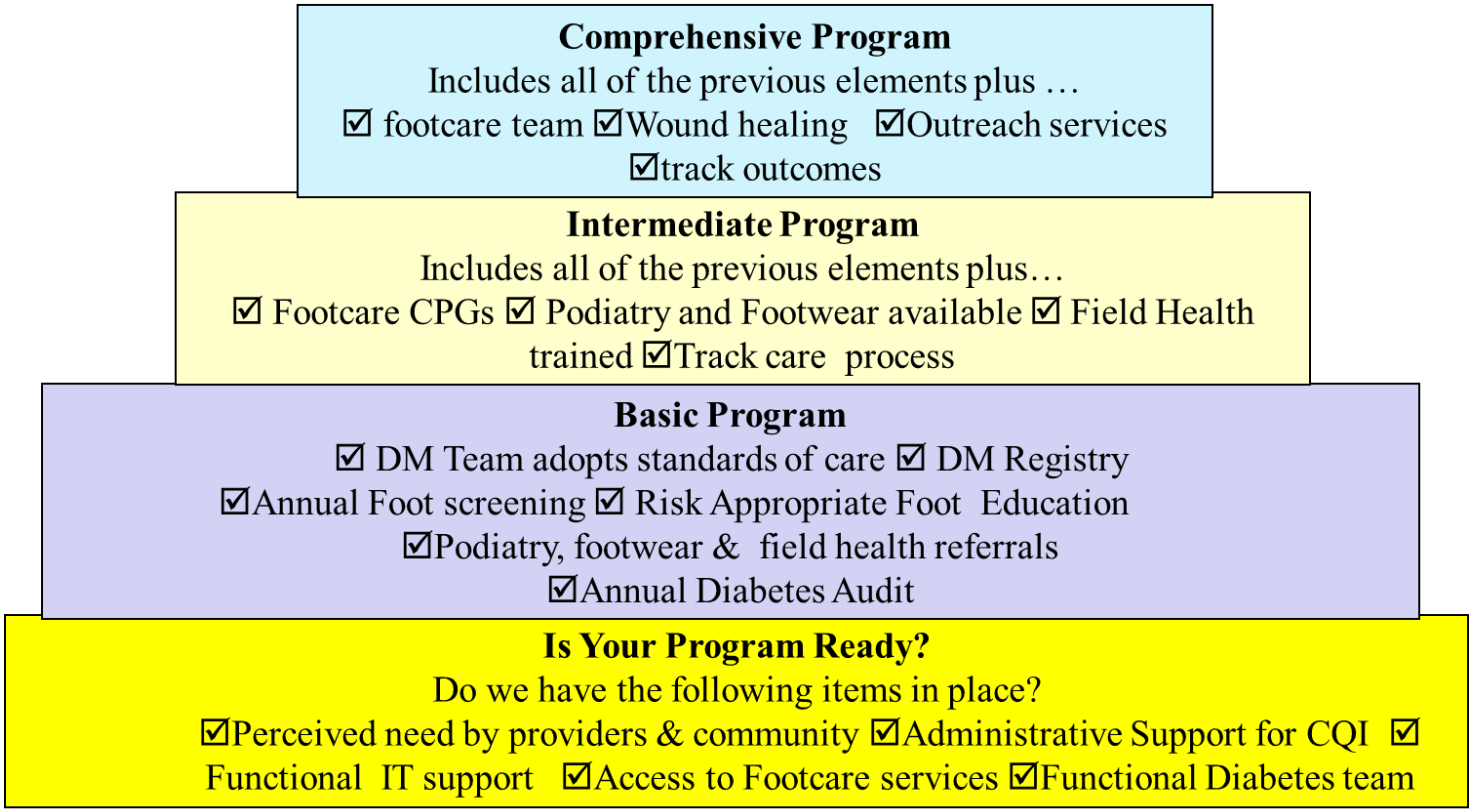


1986-1996: J Fam Pract 1998;47:128-132

1997-1999: Diabetes Care 2000;23:1445-46

2000-2005: Bemidji Area IHS Diabetes Program; CCM Interventions: Lancet 2005;366:1676-7

Stepped Approach for IHS "Best Practice" for Diabetic Foot Care



http://www.ihs.gov/MedicalPrograms/diabetes/resources/bestpractices.asp

Selected Internet Resources for Diabetic Foot Care

- IHS Best Practices – Foot Care

http://www.ihs.gov/MedicalPrograms/Diabetes/HomeDocs/Tools/BestPractices/bp06_FootCare.pdf

- Feet Can Last a Lifetime - NIH

http://www.ndep.nih.gov/resources/feet/index.htm

- Lower Extremity Amputation Prevention Program (LEAP) - HRSA

http://bphc.hrsa.gov/leap/default.html